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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,260	03/31/2006	Takanori Uejima	36856.1424	6032

54066 7590 06/06/2007  
MURATA MANUFACTURING COMPANY, LTD.  
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SUITE 850  
MCLEAN, VA 22102

EXAMINER
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GUZMAN, APRIL S

ART UNIT	PAPER NUMBER
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2618

NOTIFICATION DATE	DELIVERY MODE
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06/06/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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uspto@kbiplaw.com

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/595,260</p>	<p>Applicant(s)</p> <p align="center">UEJIMA ET AL.</p>	
	<p>Examiner</p> <p align="center">April S. Guzman</p>	<p>Art Unit</p> <p align="center">2618</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-21 is/are allowed.
- 6) ☒ Claim(s) 11-19 and 22-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/31/2006</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement submitted on 03/31/2006 has been considered by the Examiner and made of record in the application file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 11-19 and 22-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kemmochi et al. (U.S. Patent Application Publication # 2004/0032706 A1)** in view of **Nakamata et al. (U.S. Patent # 6,683,512)**.

Consider **claim 11**, Kemmochi et al. teach a high-frequency composite component ([0001], and [0012]-[0013]) comprising:

a switch for selectively switching a signal path between an antenna terminal and a transmission-side input terminal and a signal path between the antenna and a reception-side balanced output terminal ([0015], [0090], [0092], [0099], and [0158]-[0160]);

an LC filter including an inductor and capacitors disposed between the antenna terminal and the transmission-side input terminal ([0158]-[0161]);

a surface acoustic wave filter disposed between the switch and the reception-side balanced output terminal ([0092]-[0093], [0095]-[0097], and [0158]-[0161]).

However, Kemmochi et al. fail to teach a matching element including an inductor and capacitors disposed between the surface acoustic wave filter and the reception-side balanced output terminal; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers.

In the related art, Nakamata et al. teach a matching element including an inductor and capacitors disposed between the surface acoustic wave filter and the reception-side balanced output terminal; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers (Abstract, column 3 lines 45-65, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakamata et al. into the teachings of Kemmochi et al. for the purpose of reducing size and having advantageous characteristics with a drastically improved power application efficiency at the antenna terminal wherein the characteristics of the module being optimally adjustable and therefore the power loss can be reduced, and the time required for designing a wireless terminal can be reduced for cost reduction.

Consider **claim 12, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is disposed in a first area of the laminated block, and the inductor and the capacitors of the LC filter are disposed in a second area different from the first area as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 13, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is mounted on the surface of the laminated block, and the inductor and the capacitors of the LC filter are disposed

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inside the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 14, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a ground electrode is disposed between the inductor of the matching element and the inductor and the capacitors of the LC filter (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 15, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a shunt capacitor of the capacitors of the LC filter is disposed in the vicinity of the lowermost layer of the laminated block (Kemmochi et al. – [0162]-[0163]).

Consider **claim 16, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor and the capacitors of the matching element are provided on the surface of the laminated block, and the inductor of the matching element is disposed so as to be directly next to the capacitors of the matching element with no other element therebetween (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 17, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is a balanced-type surface acoustic wave filter having balanced output ports, the inductor of the matching element is

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connected in parallel between the balanced output ports, and the capacitors of the matching element are connected in series to the balanced output ports (Kemmochi et al. – [0090]-[0092], and [0095]-[0097]).

Consider **claim 18, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is an unbalanced-type surface acoustic wave filter having unbalanced output ports, and the inductor and the capacitors of the matching element define a balun (Kemmochi et al. – [0008], and [0099]-[0102]).

Consider **claim 19, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element does not overlap with the inductor and the capacitors of the LC filter as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 22**, Kemmochi et al. teach a high-frequency composite component ([0001], and [0012]-[0013]) comprising:

a switch for selectively switching a signal path between an antenna terminal and a transmission-side input terminal and a signal path between the antenna and a reception-side balanced output terminal ([0015], [0090], [0092], [0099], and [0158]-[0160]);

an LC filter disposed between the antenna terminal and the transmission-side input terminal ([0158]-[0161]);

a surface acoustic wave filter disposed between the switch and the reception-side balanced output terminal ([0092]-[0093], [0095]-[0097], and [0158]-[0161]).

However, Kemmochi et al. fail to teach a matching element disposed between the surface acoustic wave filter and the reception-side balanced output terminal; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers.

In the related art, Nakamata et al. teach a matching element disposed between the surface acoustic wave filter and the reception-side balanced output terminal; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers (Abstract, column 3 lines 45-65, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakamata et al. into the teachings of Kemmochi et al. for the purpose of reducing size and having advantageous characteristics with a drastically improved power application efficiency at the antenna terminal wherein the characteristics of the module being optimally adjustable and therefore the power loss can be reduced, and the time required for designing a wireless terminal can be reduced for cost reduction.

Consider **claim 23, as applied to claim 22 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the matching element includes an inductor and a plurality of capacitors, and the LC filter includes an inductor and a plurality of capacitors (Kemmochi et al. – [0158]-[0161]; Nakamata et al. - Abstract, column 3 lines 45-65, column 5 lines 66-67,



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column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Consider **claim 24, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is disposed in a first area of the laminated block, and the inductor and the plurality of capacitors of the LC filter are disposed in a second area different from the first area as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 25, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is mounted on the surface of the laminated block, and the inductor and the plurality of capacitors of the LC filter are disposed inside the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 26, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a ground electrode is disposed between the inductor of the matching element and the inductor and the plurality of capacitors of the LC filter (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 27, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a shunt capacitor of the plurality of capacitors of the LC

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filter is disposed in the vicinity of the lowermost layer of the laminated block (Kemmochi et al. – [0162]-[0163]).

Consider **claim 28, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor and the plurality of capacitors of the matching element are provided on the surface of the laminated block, and the inductor of the matching element is disposed so as to be directly next to the plurality of capacitors of the matching element with no other element therebetween (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 29, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is a balanced-type surface acoustic wave filter having balanced output ports, the inductor of the matching element is connected in parallel between the balanced output ports, and the plurality of capacitors of the matching element are connected in series to the balanced output ports (Kemmochi et al. – [0090]-[0092], and [0095]-[0097]).

Consider **claim 30, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is an unbalanced-type surface acoustic wave filter having unbalanced output ports, and the inductor and the plurality of capacitors of the matching element define a balun (Kemmochi et al. – [0008], and [0099]-[0102]).

Consider **claim 31, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element does not overlap with

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the inductor and the plurality of capacitors of the LC filter as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

*Allowable Subject Matter*

**Claims 20 and 21** are allowed.

Consider **claims 20 and 21**, the best prior art of record found during the examination of the present application, **Kemmochi et al. (U.S. Patent Application Publication # 2004/0032706 A1)** in view of **Nakamata et al. (U.S. Patent # 6,683,512)**, alone or in combination fails to specifically disclose, teach, or suggest a high-frequency composite component comprising:

an antenna including a rear stage;

a diplexer disposed at the rear stage of the antenna terminal that branches a signal path for a first frequency band and a signal path for a second frequency band different from the first frequency band;

in the signal path for a first frequency band, a first switch for selectively switching a signal path between the antenna terminal and a first transmission-side input terminal and a signal path between the antenna terminal and a first reception-side balanced output terminal, a first LC filter having an inductor and capacitors disposed between the first switch and the first transmission-side input terminal, a first surface acoustic wave filter disposed between the first switch and the first reception-side balanced output terminal, and a first matching element having

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an inductor and capacitors disposed between the first surface acoustic wave filter and the first reception-side balanced output terminal;

in the signal path for a second frequency band, a second switch for selectively switching a signal path between the antenna terminal and a second transmission-side input terminal and a signal path between the antenna terminal and second and third reception-side balanced output terminals, a second LC filter having inductors and capacitors disposed between the second switch and the second transmission-side input terminal, a duplexer branching a signal path disposed between the second switch and the second reception-side balanced output terminal and a signal path disposed between the second switch and the third reception-side balanced output terminal, a second surface acoustic wave filter disposed between the duplexer and the second reception-side balanced output terminal, a second matching element having an inductor and capacitors disposed between the second surface acoustic wave filter and the second reception-side balanced output terminal, a third surface acoustic wave filter disposed between the duplexer and the third reception-side balanced output terminal, and a third matching element having an inductor and capacitors disposed between the third surface acoustic wave filter and the third reception-side balanced output terminal; wherein

the duplexer, the first and second switches, the first and second LC filters, the first, second, and third surface acoustic wave filters, and the first, second, and third matching elements are integrated in a laminated block including a plurality of laminated dielectric layers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see PTO-892 Notice of Reference Cited).

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
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**Hand-delivered responses** should be brought to

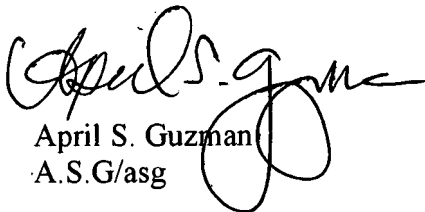
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401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

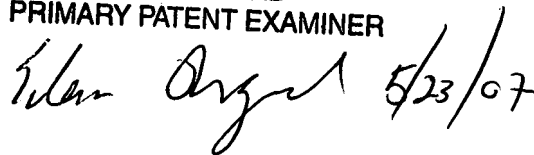
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
April S. Guzman  
A.S.G/asg

05/17/07

EDAN ORGAD  
PRIMARY PATENT EXAMINER

 5/23/07